

Research Note

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Adoption of soil test recommendations by the farmers

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Summary

The present study on adoption of soil test recommendations by the farmers was conducted in the year 2015–16 in Chandur Bazar and Bhatkuli tehsils of Amravati district. For this study 100 respondents were selected with the help of random sampling method. The data were collected with the help of structured interview schedule. Collected data were carefully examined, classified quantified and tabulated. Frequencies, mean, standard deviation, correlation of co-efficient analysis were employed for interpreting the results. Results obtained after analysis have been summarized as below. The findings of the present investigation indicate that near half 47.00 per cent of the respondents were in old age group and 38.00 per cent respondents were educated upto high school level. More than one third of respondents 35.00 per cent had small land holding upto 1.01-2.00 ha. 33.00 per cent respondents had annual income in between Rs. 50,000 to 1,00,000. Over half 52.00 per cent of the respondents having medium level of extension contact. The 71.00 per cent respondents having no source for irrigation availability. 82.00 per cent respondents were taking seasonal crops. The 59.00 per cent of respondents were having low level of motivation. 41.00 per cent of respondents were having medium level of innovativeness towards adoption of soil test recommendations. 52.00 per cent of the respondents were having medium level of availability of fertilizers. The majority of respondents 48.00 per cent had high understanding about soil test recommendations, only 34.00 and 18.00 per cent of the respondents having medium and low understanding about soil testing, respectively. The most of the respondents 76.00 per cent were having low level of adoption about soil test recommendations, only 19.00 per cent respondents were having medium adoption level and 5.00 per cent respondents were having high level of adoption of soil test recommendations. In the study it was found that education, annual income, extension contact, cropping pattern, motivation, innovativeness, availability of fertilizers and understanding of soil test recommendations were positive and significantly related with adoption at 0.01 level of significance and irrigation availability was positive and significantly related with adoption at 0.05 level of significance. Age and land holding were found to be non-significantly related with adoption. Lack of knowledge about nutrient management, soil test report not clear to the respondents had major constraints.

Key words : Adoption, Soil test, Fertilizer, Nutrient, Understanding, Farmers

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Agriculture is the backbone of Indian economy. Progress of India is very much dependent on the development of agriculture. The increased agricultural production depends upon number of factor of which soil fertility plays an important role. Soil fertility is identified by the nutrient status of the soil.

Soil testing is known as a precise management method for determining and assessing soil fertility that enables farmers to assess nutrient status and the impact of management and identify what changes are needed each year.

Soil testing is a process by which element are chemically removed from the soil and measured for their 'plant available' content within the sample. The quantity of available nutrients in the sample determine the amount of fertilizer that is recommended, It help in correct diagnosis of soil health and appropriate doses of nutrient can be added to get optimum crop yield.

Now-a-days, experts emphasize that fertilizer suggestion (especially nitrogen and phosphorus fertilizers) including amount, source, kind and time of using fertilizer must be done according to soil analysis of each area. Thus, cost of extra use of fertilizer in fertile farms is decreased and the lack of nutrients in less fertile soil is recompensed. Soil testing has exposed some information about the accurate amount of nutrients of special kinds of plants and also other information such as acid and saline-alkali soil. Soil testing as the only necessary and available tool for determining the amount of soil nutrients.

The specific objectives have been undertaken as follows:

- To study the profile of the farmers.
- To study the understanding and adoption of the farmers about soil test recommendations.
- To study the relationship between selected characteristics of farmers and their adoption of soil test recommendations.
- To study the constraints faced by the farmers in adoption of soil test recommendations.

This study was conducted in Chandur Bazar and Bhatkuli tehsil of Amravati district in Vidarbha region of Maharashtra state. For the purpose of sampling of respondents list of all the farmers who have tested soil at soil testing laboratory of Shri Shivaji Agriculture College, Amravati and State Department of Agriculture during April 2013 to March 2015 was obtained and 100 respondents were selected randomly from this list who had tested their farm soil for the entire 4 element *i.e.* N,

P, K and pH present in the soil. An exploratory research design of social research was used for the present investigation. The object of the present study was mainly to study the adoption of soil test recommendations by the farmers in the study area. From Amravati district two tehsils were selected randomly. From Amravati district, Chandur Bazar and Bhatkuli tehsils were selected and from each tehsils five villages were selected randomly. From selected villages 10 respondents from each village were selected randomly. Thus, the total 100 respondents were the sample for the study.

Profile of respondents like age, education, land holding, annual income, extension contact, irrigation availability, cropping pattern, motivation, innovativeness, availability of fertilizers and understanding of soil test recommendations were considered in this study. The simple statistical mean, standard deviation and correlation were used for used to identify relation between adoption and profile of respondents.

Relation analysis :

In order to find out the relationship of the selected characteristics of respondents with their adoption, correlation co-efficient was worked out. The findings are presented in (Table 1).

A critical examination reveals those among selected variables age and land holding were non-significantly correlated with adoption. Whereas, irrigation availability was positively significant with adoption at 0.05 level of significance. Education, annual income, extension contact, cropping pattern, motivation, innovativeness, availability of fertilizers and understanding of soil test recommendations were positively significant with adoption at 0.01 level of significance.

The finding of present study is in accordance with the findings reported by Kale *et al.* (2012). Similar studies were also conducted by several workers (Deshmukh *et al.*, 2007; Dohtare, 2014; Hole, 2014; Thakare, 2000 and Yadav *et al.*, 2006).

Conclusion :

Findings revealed that maximum per cent of the respondents were in old age group, maximum per cent of the respondents were educated upto high school level. The majority of the respondents regarding land holding had small land holding, majority of the respondents had their annual income between Rs. 50,000 to 1,00,000. Over half of the respondents having

Table 1 : Correlation co-efficient between independent characteristics and adoption of soil test recommendations

Sr. No.	Independent variable	Correlation co-efficient
1.	Age	0.007 ^{NS}
2.	Education	0.4253**
3.	Land holding	0.1953 ^{NS}
4.	Annual income	0.3103**
5.	Extension contact	0.4110**
6.	Irrigation availability	0.2448*
7.	Cropping pattern	0.4300**
8.	Motivation	0.4448**
9.	Innovativeness	0.5810**
10.	Availability of fertilizers	0.5308**
11.	Understanding of soil test recommendations	0.4937**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

NS= Non-significant

medium level of extension contact, majority of the respondents had no source of irrigation, maximum per cent of the respondents were following seasonal cropping pattern, majority of the respondents had low level of motivation. Majority of the respondents had medium level of innovativeness, majority of the respondents had medium level of availability of fertilizers, majority of the respondents had high understanding about soil test recommendations. Maximum per cent of the respondents had low level of adoption about soil test recommendations.

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